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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/881,501	06/14/2001	David M. Alpern	oracle01.013	7766

56212 7590 12/21/2009

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ART UNIT	PAPER NUMBER
2161	

NOTIFICATION DATE	DELIVERY MODE
12/21/2009	ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DAVID M. ALPERN,
RONALD M. DECKER, JAMES FEENAN,
SANJAY HEMANT KALUSKAR,
CHRISTOPHER P. RACICOT,
ANINDO ROY, and ERIC P. VOSS

Appeal 2008-001371
Application 09/881,501
Technology Center 2100

Decided: December 17, 2009

Before LEE E. BARRETT, LANCE LEONARD BARRY, and
HOWARD B. BLANKENSHIP, *Administrative Patent Judges*.

BLANKENSHIP, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

This is an appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 5-24, which are all the claims remaining in the application. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm-in-part.

Invention

A request that contains a reference to an object that is not contained in a database system cache is redirected to another database system. The cache database system may handle redirection of calls to stored procedures that are not present in the cache database system by rewriting the calls as remote procedure calls to the stored procedures in the other database system. *See* Abstract.

Representative Claim

5. A method employed in a distributed database system that includes a plurality of database systems for responding to a request received in a particular database system of the plurality,

the method comprising the steps performed during execution of the request in the particular database system of:

determining whether the execution of the request is preferably done at least in part in another database system of the plurality; and

if that is the case, redirecting that part of the execution to the other database system.

Prior Art

Souder	U.S. 5,806,074	Sep. 8, 1998
Bogantz	U.S. 6,243,715 B1	Jun. 5, 2001
Taylor	U.S. 2002/0065919 A1	May 30, 2002

Examiner's Rejections

Claims 5-7, 10-16, and 19-24 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Bogantz.

Claims 8 and 17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Bogantz and Taylor.

Claims 9 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Bogantz and Souder.

The Answer lists an objection to the Specification as a ground of rejection. However, the objection relates to a matter for petition and is not a ground of rejection for our review on appeal. *See Manual of Patent Examining Procedure* §§ 706.01, 1002.02(c), and 1201 (Eighth ed., Rev. 7, Jul. 2008).

Claim Groupings

Based on Appellants' arguments in the Appeal Brief (and some claim dependencies), we will decide the appeal on the basis of claims 5, 6, and 7. *See* 37 C.F.R. § 41.37(c)(1)(vii).

FINDINGS OF FACT

Bogantz

A replicated database system comprises a plurality of databases, each having an identical set of records. Col. 1, ll. 14-16.

Bogantz discloses a database system 100 (Fig. 2) having a plurality of replicated databases 101-103, a database provisioning system 104, and a database querying system 106. Each record in each of the databases 101-103 includes a pointer field comprising pointer data that indicates a selected database. Col. 5, l. 66 - col. 6, l. 11.

The database provisioning system 104 updates the records in the replicated databases 101-103 and assures that the data is accurate and accessible. Col. 6, ll. 18-25.

The database querying system 106 retrieves records from databases 101-103 upon the request of database users 108. The actual database accessed by the database querying system is transparent (i.e., unknown) to the database user. Col. 6, ll. 30-37.

A "record in transition" is one that is being updated with data. Query messages which would access a record in transition are routed to a database that has been, or will be, updated. Col. 6, ll. 42-50.

When a record in each of the databases 101-103 needs to be updated, the provisioning system 104 selects one of the databases as the selected database. Any queries from the querying system 106 that are in the process of being updated are redirected to the selected database. In the event that a record requested by a user is being updated by the provisioning system 104, the queried database will, transparent to the user, halt processing of the

request and launch a request back to the database querying system 106 to transmit the query to the selected database. Col. 6, ll. 51-65.

PRINCIPLES OF LAW

Claim Interpretation

The *claims* measure the invention. *See SRI Int'l v. Matsushita Elec. Corp.*, 775 F.2d 1107, 1121 (Fed. Cir. 1985) (en banc). During examination, claims are to be given their broadest reasonable interpretation consistent with the specification, and the language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art. *In re Amer. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004) (citations omitted). The Office must apply the broadest reasonable meaning to the claim language, taking into account any definitions presented in the specification. *Id.* (citing *In re Bass*, 314 F.3d 575, 577 (Fed. Cir. 2002)).

Anticipation

"Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim." *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1458 (Fed. Cir. 1984).

For a prior art reference to anticipate in terms of 35 U.S.C. § 102, every element of the claimed invention must be identically shown in a single reference. However, this is not an "ipsissimis verbis" test. *In re Bond*, 910 F.2d 831, 832 (Fed. Cir. 1990).

ANALYSIS

Claim 5 (grouped by Appellants with claim 15)

A central issue in this appeal is the meaning of "distributed database system that includes a plurality of database systems" as it appears in the preamble of instant claim 5. The arguments in support of, and in opposition to, the Examiner's finding that Bogantz anticipates claim 5 are based on dueling definitions of "distributed database" and "database system."

Contrary to the Examiner's finding with respect to what the Specification fails to define (and contrary to Appellants' silence), the Specification does offer a definition for "distributed database." A "distributed database," according to Appellants, is "a set of databases that appear to an application program as a single database." Spec. 7: 28-29.

The Specification does not offer a clear definition for "database system," but Appellants allege that the term is defined by implication. "[*L*]*ike all database systems*, database system 203 [Fig. 2] *includes a query engine 205 and a database 220*." Spec. 13: 26-27 (emphasis added). Based on this sentence from the Specification, Appellants submit that a database "system" requires a query engine in addition to a database. As such, Bogantz is alleged not to describe the claimed redirecting part of the execution to the "other database system," because the replicated databases 101 through 103 (Fig. 2) of the reference are each a database but do not each include a query engine.

However, the relied-upon text in the Specification, and the rest of the disclosure, is not clear in requiring that a "database system" must comprise a database and a separate and independent "query engine" for that database.

For example, as shown in Figure 2, an SQL request is redirected to target "database system" 229 (*e.g.*, Spec. 14: 10-11). The SQL request being presented to database 229 suggests that the database might include a query engine. However, a query engine is not shown or otherwise described as making up part of database system 229. The only "query engine" that the Specification appears to describe is "query engine 205" (Fig. 2), which is associated with database 220 and part of database system 203.

We find that Appellants' disclosure does provide some support for the view that a "database system" must include a database and a separate, independent query engine that queries that database (and no other). However, the disclosure is not so unambiguous as to require that to be the only acceptable interpretation for "database system."

Further, we agree with Appellants as to the relevance of Bogantz referring to "database system" 100 (Fig. 2) but to each of replicated databases 101 through 103 as a "database." On the other hand, however, Appellants' disclosure appears to use "database" and "database system" interchangeably. For example, database system 229 (Fig. 2) is referenced both as a "redirection target database system" (Spec. 14: 10-11) and as a "redirection target database" (*id.* at 15: 9-12).

Because Appellants could have amended the claims to obviate any question of what the "database system" actually requires, we decline to read the recitation in the restrictive way that Appellants argue in the briefs. "Giving claims their broadest reasonable construction 'serves the public interest by reducing the possibility that claims, finally allowed, will be given broader scope than is justified.'" *Amer. Acad. of Sci. Tech Ctr.*, 367 F.3d at

1364 (quoting *In re Yamamoto*, 740 F.2d 1569, 1571 (Fed. Cir. 1984)). "An essential purpose of patent examination is to fashion claims that are precise, clear, correct, and unambiguous. Only in this way can uncertainties of claim scope be removed, as much as possible, during the administrative process." *In re Zletz*, 893 F.2d 319, 322 (Fed. Cir. 1989). "Construing claims broadly during prosecution is not unfair to the applicant . . . because the applicant has the opportunity to amend the claims to obtain more precise claim coverage." *Amer. Acad. of Sci. Tech Ctr.,* 367 F.3d at 1364.

We therefore agree with the Examiner that Bogantz discloses a "distributed database system" that includes a plurality of "database systems" 101 through 103 (Fig. 2). Bogantz describes a "distributed database system" because databases 101 through 103 appear to users 108 as a single database (i.e., storage or retrieval of data with respect to any particular database is transparent to the users). Each of replicated databases 101 through 103 in Bogantz is a "database system" because each comprises a database and each is associated with database querying system (query engine) 106.

Appellants also argue that Bogantz cannot disclose redirecting part of the execution of the request "to the other database system" because in the reference the request is redirected to database querying system 106 rather than to the "other database system." However, the redirection of the execution of the request does not end at the database querying system 106 in Bogantz. The redirection of the execution[1] is through the database querying system 106 and ultimately to the other (selected) database system indicated

[1] Claim 5 recites redirecting "that part of the execution," which can be interpreted as "the execution" in view of the "at least in part" in the "determining" step.

by the pointer data in the first-queried database. Instant claim 5 does not preclude a two-step redirection of the execution to the other database system.

We are therefore not persuaded of error in the rejection of claim 5.

Claim 6 (grouped by Appellants with claim 19)

In response to the rejection of claim 6, Appellants submit that a record that is "not available" is not the same as a record that is "lacking." "In Bogantz, the data requested by the query is *present* in the record; it is just not available because it is being updated." Reply Br. 9.

We disagree with Appellants' implication that the word "lacking" is limited to be synonymous with "not present." In Bogantz, data in a record that is being updated (and thus unavailable) is "lacking" in the particular database system with respect to the query for the data. Moreover, if the data is being updated, the actual data item that is needed and returned from another (selected) database is not necessarily the same as that present in the first-queried database. The data requested by a query is therefore not present in the first-queried database, and thus "lacking" even in Appellants' restrictive definition of the term.

We are therefore not persuaded of error in the rejection of claim 6.

Claim 7 (grouped by Appellants with claim 16)

Claim 7 recites the further steps of placing the request (of claim 5) in a form required for execution in the particular database, and modifying the

form when it has been determined that the request is preferably executed at least in part in the other database system.

The Examiner points to column 7, lines 35 through 45 of Bogantz for disclosure of the recitation (*see* Ans. 5). The Examiner submits that the query is "modified" by pointer data (*id.*).

Appellants argue that in Bogantz *the request* is not modified. App. Br. 9. The claim does recite that the request is placed in a form required for execution in the particular database, and modifying the form -- which is the request -- upon the determination that the request is preferably executed at least in part in the other database system.

The Examiner, in response (Ans. 15-16), speaks at length with respect to what might constitute a "form." However, we do not find any satisfactory explanation for how Bogantz might describe a query, request, or form that is subsequently *modified* in accordance with instant claim 7. The portion of Bogantz (col. 7, ll. 35-60) reproduced at page 16 of the Answer describes re-directing a query when the pointer field in one database indicates that the query should be directed to the selected database. However, we will not speculate as to how this might be deemed to disclose modification of a form as claimed, absent a convincing explanation from the Examiner in support of the rejection.

We therefore cannot sustain the § 102 rejection of claim 7 as being anticipated by Bogantz.

Conclusion

In view of the claim dependencies and the corresponding claims as argued by Appellants, we sustain the rejection of claims 5, 6, 10, 11, 15, 19, 20, and 24 under § 102(e) as being anticipated by Bogantz. We do not sustain the rejection of claims 7, 12-14, 16, and 21-23 under 35 U.S.C. § 102 as being anticipated by Bogantz.[2]

We do not sustain the rejection of claims 8 and 17 under 35 U.S.C. § 103(a) as being unpatentable over Bogantz and Taylor, nor the rejection of claims 9 and 18 under 35 U.S.C. § 103(a) as being unpatentable over Bogantz and Souder. The addition of Taylor or Souder does not remedy the deficiencies in the rejection applied against base claim 7 or 16 over Bogantz taken alone (under § 102).

DECISION

The rejection of claims 5-7, 10-16, and 19-24 under 35 U.S.C. § 102(e) as being anticipated by Bogantz is affirmed with respect to claims 5, 6, 10, 11, 15, 19, 20, and 24 but reversed with respect to claims 7, 12-14, 16, and 21-23.

The rejection of claims 8 and 17 under 35 U.S.C. § 103(a) as being unpatentable over Bogantz and Taylor is reversed.

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[2] Moreover, claim 13 depends from claim 8, claim 14 depends from claim 9, claim 22 depends from claim 17, and claim 23 depends from claim 18. The rejection of claims 13, 14, 22, and 23 under § 102 is thus improper on its face because, as set forth in the rejections under § 103(a), intervening claims 8, 9, 17, and 18 are admitted to contain subject matter not found in a single prior art reference.

The rejection of claims 9 and 18 under 35 U.S.C. § 103(a) as being unpatentable over Bogantz and Souder is reversed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 41.50(f).

AFFIRMED-IN-PART

msc

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